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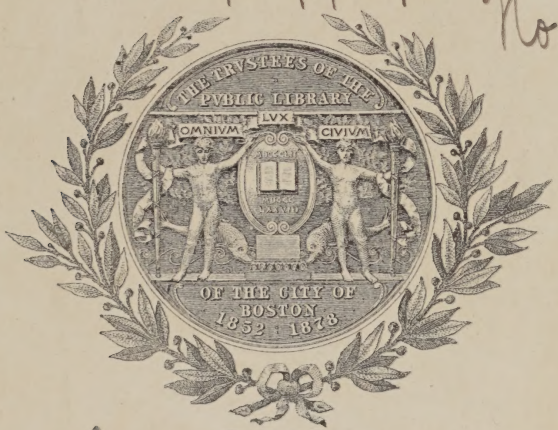

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EARTH AND SKY

NUMBER TWO

A SECOND AND THIRD GRADE
NATURE READER AND TEXT-BOOK

BY

J. H. STICKNEY

AUTHOR OF STICKNEY'S READERS, "EARTH AND SKY, NUMBER I"
"PETS AND COMPANIONS," "BIRD WORLD"

PUBLIC LIBRARY

REVISED EDITION

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612.8
Ginn & Company
April 12, 1913.

The Athenæum Press
GINN & COMPANY · PROPRIETORS · BOSTON · U.S.A.

PREFACE

THIS book is a natural sequel to Number One of the Earth and Sky series. The object is the same: to bring before children's minds their own relation to the natural world in such a way as to appeal to imagination and reflection.

The custom of grouping children for teaching, not after the family plan but with those of the same age, makes a call for books whose reach is somewhat beyond the reader's present experience. There are many indications that our graded system, admirable as it is in the main, needs enrichment in lines of thought which stimulate and feed the minds of children.

The alternative in books for children seems to be between "easy reading" and something to think about and talk over. The present volume will be seen to be a social book, inviting comment and elaboration along familiar lines. It will be greatly helped, if shared by mother and child, or teacher and class. Appropriate selections from authors whose hold upon children has been proven give added interest to the original matter.

Below are phrases which summarize points of contact which the readings make with the natural world:

Voice and speech in everything in nature.

Beginnings of experience in every little child.

Needs that earth and sky must meet.

Nature with and without man's help and control.

Mutual dependence of human beings; blessings of work and service.

Social life in its bearing on conduct and character; human institutions.

The term of life; the passing on of knowledge and attainment from parents to children.

The treatment of these subjects in the pages that follow will not be found to be beyond the intelligence of young children.

J. S. L.

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A GLIMPSE OF EARTH AND SKY

EARTH AND SKY

Number Two

I. NATURE VOICES

A little Indian boy named Hiawatha sat at the door of his tent on summer evenings and listened.

What he heard was

Sounds of music, sounds of wonder.

They came from the whispering of the wind in the pine trees and the lapping flow of the water in the running brooks.

As nearly as the boy could imitate them,

"Minne-wawa," said the pine trees,
"Mudway-aushka," said the water.

He loved to think of West Wind

Walking lightly o'er the prairie,
Whispering to the leaves and blossoms.

When this boy had grown up, the story says, a singer named Nawadaha made songs about him, telling

> Of his wondrous birth and being —
> How he prayed and how he fasted,
> How he lived and toiled and suffered,
> That the tribes of men might prosper.

We think that one reason why he became so strong and good was because he loved the sunshine of the meadow and the shadow of the forest; loved the wind among the branches and the rain shower and the snowstorm; loved the rushing of great rivers and the thunder in the mountains; yes, and all the beautiful sights and sounds of earth and sky.

Winds and trees and waters talk and sing, laugh and sigh, in the same way now. If once we learn to know them, they will always give us pleasure. The next three stories tell of other ways of talking.

II. WHAT OYVIND LEARNED

OYVIND'S mother told him how once everything could talk: the mountain to the brook, and the brook to the river, and the river to the sea, and the sea to the sky.

He asked if the sky did not talk to any one, and was told that it talked to the clouds, and the clouds to the trees; the trees talked to the grass, and the grass to the flies, the flies to the beasts, and the beasts to the children, but the children to grown people; and thus it went on until it had gone round a circle, and no one knew where it had begun.

Oyvind gazed long at the cliff, the trees, the sky, and the sea. He felt that he had never truly seen them before.

The cat came out just then and sat upon the doorstep in the sunshine. "What does the cat say?" asked Oyvind.

The mother sang:

Evening sunshine softly is dying,
On the doorstep lazy puss is lying.

Says the pussy:

"Two small mice, cream so thick and nice,
Four small bits of fish stole I from a dish;
Well filled am I and sleek. Am very sleepy
and meek."

Two small birds sat singing on the gable.

"What are the birds saying?" asked Oyvind, and laughed.

"Dear Lord, how pleasant is life
For those that have neither toil nor strife,"

say the birds.

Thus he learned what all were saying, even to the ant crawling in the moss, and the worm working in the bark.

BJÖRNSON.

III. HOW RUDY LEARNED TO CLIMB

"COME out upon the roof with me," the cat had said to Rudy very distinctly and intelligently many times.

Young children, before they speak themselves, can understand animals very well. Some children keep this intelligence longer than others.

"Come out upon the roof with me, Rudy," was about the first thing that the cat had said, and Rudy understood long before he answered.

"All that people say about falling down is mere fancy; *you will not fall unless you are afraid.* Come on! Put one of your paws here and the other there; then feel with your fore paws. You must use your eyes, and be active with your limbs. If you come to a hole, jump, and hold tight; that 's the way I do!"

And so little Rudy did, too; that is why he so often sat upon the shelving roof, and up in the tree tops, and even upon the high ledges of rock where the cat could not follow him.

"Higher up!" said the trees and bushes.

"Look how we climb, how high up we reach, and how fast we cling to the very narrowest ledges!"

Rudy reached the mountain tops even before the sun rose and touched them. There he drank his morning draught, the fresh, life-giving mountain air — the draught that only the good God knows how to prepare — in which is the fresh fragrance of mountain herbs and the mint and thyme of the valley.

The swallows from his grandfather's house flew up to him singing, "We and you, you and we!" The Spirit of Giddiness often tried to seize him, but said she to the Queen of the Ice Fields, "I can't do it; that monster of a cat has taught him."

HANS ANDERSEN.

IV. THE PRINCE AND THE BEE

ONCE upon a time a king's son lay under a pear tree fast asleep. While he was asleep the queen of the bees came. She was tired of flying and she stopped to rest on his hand.

When he awoke he saw the bee.

"Poor, tired bee!" he said kindly. "I will not brush you away. Rest as long as you like. I will keep quite still."

Soon the bee flew away, but the prince heard a voice say:

"Oh! pick the green pear which grows by the wall,
For that is the very best pear of all."

Then the prince looked up into the pear tree and saw a little hard green pear which grew by the wall. It did not look as if it were at all good to eat. He took hold of the pear, but he could not break it off the stem.

Then he heard a voice say:

"First free the bird in the oak tree tall,
Before you may pick the pear by the wall,
Which is the very best pear of all."

So the prince went into the woods to look for a tall oak tree. Soon he heard a bird crying. It was caught in a net in a tree. The prince took out his knife to cut the net, when he heard a voice say:

"First help the mouse in your father's hall,
He will free the bird in the oak tree tall,
And then you may pick the pear by the wall,
Which is the very best pear of all."

By this time the prince was used to doing what the voice said; but it did seem as if the pear would not be worth all the trouble.

Up he went to his father's hall, and there was a poor little mouse in a trap. When the prince opened the trap the little mouse ran out into the woods as fast as it could go.

With its sharp teeth it made a hole in the net and out flew the bird.

Then the prince went to the pear tree and picked the hard green pear. When he had picked it he heard a hundred little voices in the air.

They were the voices of the birds and the bees and the grass and the flowers and even the deep, soft voice of the wind in the tree tops.

"Now I know what you are saying," cried the prince with joy. "All my life I have longed to know what it is you say. I am glad I can understand you now."

"All your life you shall know what we say," said the first voice, "because you have learned the great lesson of the world.

"Every time you put out your hand to help some one, you learn a little more of the lesson. As you go on you will find it easier and easier to understand. Each duty that you do will make the next one easier."

The Jones Second Reader.

V. THE BABY

WHERE did you come from, baby dear?
Out of the everywhere into the here.

Where did you get your eyes so blue?
Out of the sky as I came through.

What makes your forehead so smooth and high?
A soft hand stroked it as I went by.

What makes your cheek like a warm, white rose?
Something better than any one knows.

Where did you get that pearly ear?
God spoke, and it came out to hear.

How did they all just come to be you?
God thought about me, and so I grew.

But how did you come to us, you dear?
God thought of you, and so I am here.

GEORGE MACDONALD.

VI. A NEWCOMER IN EARTH AND SKY

One day a little baby came and began to live in this beautiful world.

A little girl's Christmas doll, as you know, may live in her heart, so that she begins to love it before she has even seen it, and a boy takes pride beforehand in a toy engine that has been promised him for a Christmas present.

So the mother had been laying up love for this newcomer. It was not to be simply a doll or toy. It must have flesh like her own flesh, so as to have eyes to see with, ears to hear with, touch and taste and smell, a heart to love

with, and all that makes a baby lovely to see and happy in its life.

This mother worked and rested, thought and prayed, ate and slept, with always some thought of what would be good for the little child.

We who were once just such babies should love our dear mothers. We must think tenderly of all mothers. This book is going to tell what makes earth a good place to live in, for this and all babies, and for ourselves and our families.

Only a baby small dropped from the skies;
Only a laughing face, two sunny eyes;
Only two cherry lips, one chubby nose;
Only two little hands, ten little toes.
Only a baby small, never at rest;
Small, but how dear to us, God knoweth best.

VII. EARTH FOR A HOME

THE same One who gave the dear baby to the mother made the great world and all that is in it.

The oldest and best story of the making of the earth is told at the beginning of the Bible. Here are some of the sentences that help to tell it:

In the beginning God created the heavens and the earth. And God said, Let there be light: and there was light. And God called the light Day, and the darkness he called Night.

And God called the dry land Earth: and the gathering together of the waters called he Seas.

And God said, Let the earth put forth grass, herbs yielding seeds, and fruit trees bearing fruit after their kind.

And God made the two great lights; the greater light to rule the day, and the lesser light to rule the night; he made the stars also.

And God said, Let the waters swarm with swarms of living creatures, and let birds fly above the earth in the open firmament of heaven.

And God made the beasts of the earth, and the cattle, and everything that creepeth upon the ground.

And God said, Let us make man in our image, after our likeness, and let them have dominion over the fish of the sea, and over the birds of the heavens, and over the cattle, and over all the earth.

And God saw everything that he had made, and, behold, it was very good.

Do you see from this story that the baby was a prince, or a princess, and that when it was given to the earth, the earth was also given to it?

Macdonald begins his story "The Princess" by saying so.

Every Little Girl a Princess

There was once a little princess, who —

"But why do you always tell us about princesses?"

"*Because every little girl is a princess.*"

"You will make them vain if you tell them that."

"Not if they understand what I mean."

"Then what do you mean?"

"What do *you* mean by a princess?"

"*The daughter of a king.*"

"Very well; then every little girl is a princess, and there would be no need to say anything about it, except that she is always in danger of forgetting her rank and behaving as if she had grown out of the mud.

"And this is why, when I tell you a story of this kind, I like to tell it about a princess. Then I can say better what I mean, because I can then give her every beautiful thing I want her to have."

All the people who have lived on the earth came to it as little children.

If they had known that they were sons and daughters of the great King, they might, perhaps, have had more good and beautiful things than they have had.

If we keep this truth in mind, it will help us to behave so as to deserve and have them.

VIII. FOOD FOR THE BABY

HAS the baby of our story been all this time without *food?*

No, indeed; it did not go more than four hours at a time, for babies and birds must be fed often.

Here in the picture is a baby eating its dinner. When this little Somebody grows older it will want other food than the milk it is drawing up through the tube.

Are you old enough yet to begin to wonder why it is that you must eat, and what it is that food does for you? Let me try to tell you.

"We eat because we are hungry," I hear one of you saying.

That is quite true, but that only changes the question to, Why do you get hungry?

The chief reason is that every breath you draw, every movement you make, even every word you speak and every thought you think, wears out little parts of your body.

It will not do to let the body get worn, as a dress or coat may do, till it is not fit for use, and then to set about repairing it. In living things the repair must go on as fast as the wear does, or strength will be lost.

The body is made up of millions of little bodies of different kinds. These tiny bodies are *cells*, and each will repair itself if the food materials are made ready and brought to its door. Remember, sometimes when you are eating, that a million little cell lives are waiting for their portion of your good dinner, and that you are their crowned king.

But to keep its little body in repair, that is in perfect health, is not enough for this dear baby.

The wonderful thing about the baby is that it is *growing larger*, and that in time it will become a man or woman.

Air and sunshine, food and drink, and good loving care will help this baby to build a fine, strong, big, body for itself. And the odd thing is that we never see the building half done, just as we cannot see by what steps the grass grows. All that we see is first a baby a little larger and wiser every month, then a boy or girl, then a strong man or woman, and last, perhaps, a very old person whose body is wearing out faster than it can be repaired, and will soon be left to waste away altogether because the life will not any longer try to use it.

The first process we call *life* and the wasting one is *death.*

The baby had its first food from its mother. If she could not give it enough, it had milk from a cow. The cow was a mother, too, but she had more than a baby calf could eat.

In a few months teeth began to appear, which meant that other food would soon be needed to make the baby grow. What has the mother earth provided for her bigger children's needs?

Growing upon her trees are nuts and other fruits, — apples, peaches, bananas, oranges. Close to the earth, on plants and bushes, are berries and grains. On other plants pods burst open and peas and beans roll out. All these and many more things, such as potatoes which grow in the ground itself, are ready for the mother's choice. These and the eggs of birds and milk from the cow make as good food as a baby could ask.

There is still another kind of food that people in cool countries think they ought to have. In early times hunters went out and sought this food; now we can buy it in the markets. Many wise people tell us that we do not need to kill to obtain food, and that by and by we shall look upon doing so as cruel and barbarous.

If we stop to think how much the fruits and vegetables we have are being improved by cultivation from their wild state, we can easily believe that these people may be right. There is not space here to tell what one man, Mr. Burbank of California, is doing to improve the natural gifts of plants. He believes that there are other poor wild things which by study he can find ways to make good and useful.

All children must be taught to feel grateful to the good God who gave all the earth gifts.

I love, and have some cause to love, the earth.
She is my mother, for she gave me birth;
She is my Maker's creature, therefore good;
She is my nurse, for she provides me food.

HERBERT.

IX. HOW DOES THE GARDEN GROW?

Who does not like to have a garden of his own — a little plot of ground shut in from the field or street? How much can be made to grow in it! But it takes learning to make a good garden.

In early springtime the ground is made soft and rich, and divided into little beds and plots so that each thing that is planted may have a place all its own. Narrow paths run between the beds so that things may be cared for and gathered when ready.

Some seeds can be planted as soon as the frost is out of the ground. Some are sown deep and some have only a sifting of earth to cover them. Peas are in rows and corn in hills. Beets, turnips, and lettuce are close together, and beans a little way apart.

Sticks and strings are provided for vines

"Mistress Mary, quite contrary,
How does your garden grow?"

"With silver bells and cockle shells,
And pretty maids all in a row."

that grow tall but cannot support themselves. If weeds take the liberty to lift their heads, they are pulled up without mercy. The field and roadside should be enough for them.

All the family watch the garden; they ask when each kind of seed may be expected to send up its shoot. If the season should be dry, some of the beds will be watered.

There comes a warm, sunny time, and a watchful eye sees the right sort of shoot coming through the ground. Then they say, "The peas are up!" Soon afterwards come the pretty little blades of corn. Green lines run across the lettuce and beet beds; there are twice as many plants as can find room to grow, and some must be weeded out.

Neighbors and friends compare their gardens, and times are set for beginning to gather one kind and another of vegetables for the table. Watching and waiting are parts of the pleasure.

X. CLOTHING

THERE was clothing waiting for this baby when it came. Those who have had baby brothers or sisters will remember the snow-white dresses, and the soft woolly blankets, and the socks.

All these things, and all the clothing anybody wears, must of course be made of materials the earth furnishes. Mother Earth is the great provider for us all.

We see the coverings of the cat, the dog, the horse, and the cow, the bird and the fish, ready-made for them and nicely put on. Their clothing is washed and dried, and mended if need

be, without being taken off; but there is no best suit in a trunk or clothespress to wear on Sundays.

The animals do more than make their own clothing; they provide stuff out of which ours is made. The pillow for the dear baby's head is filled with the softest feathers; its dresses are made of the fibers of a plant; its warm clothing and the blanket came from the sheep and lambs; a humble little worm spun the silk of its tiny cap. Do you care to know more about the ways people have of getting material for clothing and fitting it for all their wants?

Let us first try to understand what clothing does for us. If I were to ask you, you would say, "It keeps us warm." That is right; but some children think it warms them. That is a different story.

It would be truer to say that it is the food they eat and the fresh air they breathe that does that. It is your rich red blood that

warms your bodies. Run and jump if you are cold, and take long, strong breaths to make your blood move faster. That is better than buttoning up your jacket. The woolly coat keeps the warmth in instead of letting it escape into the frosty air. Heat, because it is such a generous thing, is always giving itself away if we do not make walls and wraps to hold it.

Did you ever see your mothers put a little jacket, called a *cozy*, over the teapot to keep the heat from escaping? That is the way clothing keeps you warm. The furnace that warms you is a part of your own selves. When the thermometer tells us that the heat of the room is 70° it finds that our bodies are nearly 100°.

The layers of clothing that we wear keep the heat from being wasted faster than we can make it.

In the warm summer time clothing does the opposite thing, — it keeps the hot sunbeams from burning our tender flesh. The next lesson tells about that.

XI. SHELTER AND PROTECTION

THERE is something else that is needed as truly as air and light, food and clothing.

In warm bright weather it is pleasant to be out of doors. To sleep out under the open sky might not be a hardship. There are sights and sounds in the nighttime that would repay us for the lack of a bed. But how would it seem to be obliged to live all the time with nothing over us but the great roof of the sky?

There are but a few animals that do not seek shelter from bad weather, and safety from enemies. Herds of cattle on the great

western plains find the least bit of a hillock and huddle together on its leeward side for protection from the wind. Holes and caves, big or little, are homes for creatures.

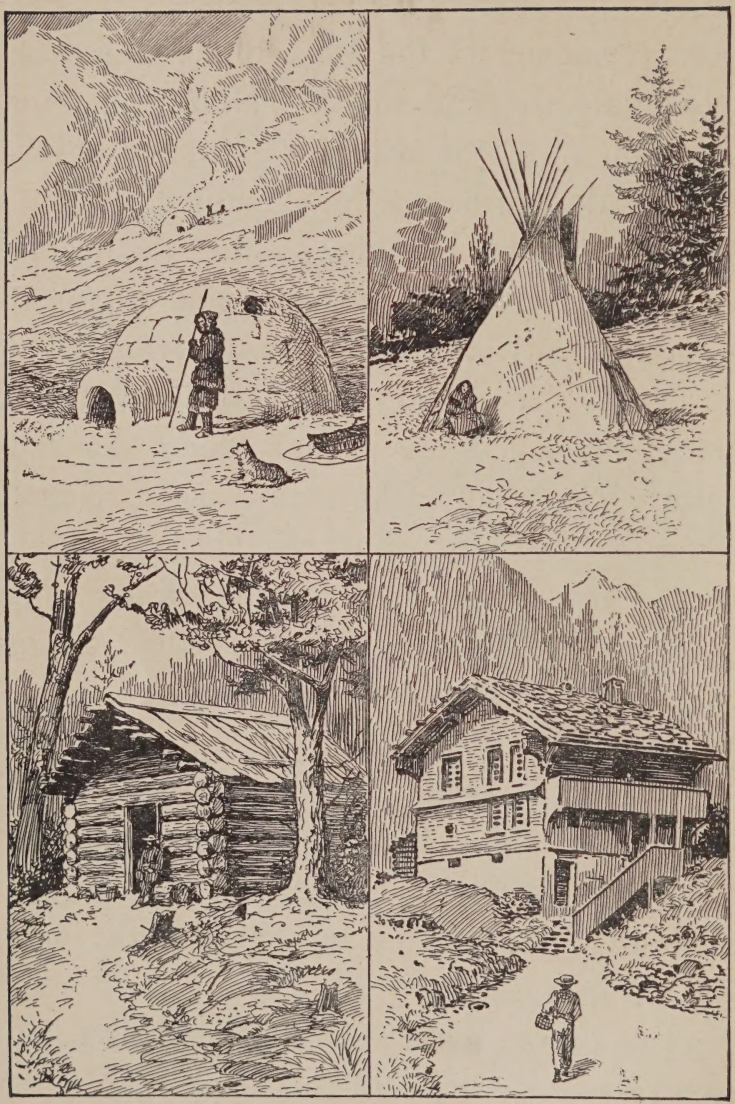
What has earth provided to meet this want?

A single tree is a shelter, and a forest sometimes protects a whole town from wind and storm. The shadow of a rock is a welcome protection from noonday sun. In hot countries the day is the time when shelter is needed. Journeys must be taken by night, and the days used for rest and sleep. The shadow of a great rock may save the lives of wanderers who have no other refuge.

This is what earth can do all by itself. Let us consider what man has learned to do with materials which earth provides.

The tent for traveling people, and the hut for those who stay in one place are the simplest forms of shelter.

Let us choose what shall be the shelter and protection of the baby of this book.



If the home is up in the Frozen Zone, and the time is winter, the hut will be made of blocks of clean snow. You will see by the picture that it is carefully, prettily shaped. If it gets broken, soiled, or melted, a little fresh snow will make it good again. The window of such a hut will be of clear ice.

In springtime the Eskimos and Laplanders leave their melting huts and go journeying about with tents. The hut is a place of danger to health then. Many wait too long and take colds from which they never get well.

Where there are collections of huts made of earth there is sometimes a wall around for protection from enemies.

Each of you can picture twenty different kinds of houses. If there is plenty of love, each will be a dear home for all who live in it.

XII. AIR AND SUNSHINE

We will forget all the other people in the world, and try to think what earth must have for this new resident, — the little baby we have in our minds. You may, if you choose, imagine it was your own self.

Its first need of all is *air to breathe.*

The baby's lungs must have air to breathe every moment of its life.

How shall it get the air? Why, the good old earth is wrapped all around with a thick layer of air. It reaches so far that no one has ever been beyond it. There are mountains nearly five miles high, and the tops of them have air like the rest of the world, although it is thinner at that height.

Air is so soft that we push it aside when it is in our way. We see through it and move about in it as if it were not there. Up in the cold

countries of the north, where the Eskimos live, babies find it waiting for them to use, and in the hot climates of the south it is rightly mixed with what lungs and lifeblood need for healthy living. All we need to do is to give it a chance to keep itself pure, and then we may help ourselves to all we can take of it, — the more the better.

Next, there must be *sunshine.* If this Somebody of our story is to grow up a fine, strong, healthy boy or girl, there must be plenty of sunshine. But sunshine all the time, it seems, is not needed; and the earth turns round and round, sometimes toward the light and sometimes away from it; so, just as the creation story says, there is day and sunshine, and dark night for sleep.

The great sun does more than give us light. It smiles upon every leaf and flower. It keeps earth and air warm. It rules over the earth, never letting it go astray, as you will learn when you are older.

XIII. EARTH MATERIAL

WHAT is the earth made of?

If you have looked about you, I do not need to tell you that the ground is different in different places.

Here we find clean fine *sand* that we can sift through our fingers without soiling them. It is clean even when it is damp. We pat it together into a shape, but it falls apart again. In the country it is yellow, and on the seashore it is nearly white and very fine.

There the ground is a great bed of *clay*. If it is dry it feels hard, but it will crumble, and if it is wet it is soft and sticky. We can soften it and make it into whatever shape we like, and when dry it will hold the form

we have given it. Both sand and clay, when ground fine, make dust that the wind blows about.

In another place there is neither sand nor clay, but rich *soil* in which plants grow thickly. Where there is good soil people do not let wild things grow, but plant what will be of use to them.

Mixtures of these three — *sand*, *clay*, and *soil* — make the most of the ground under our feet. Children sometimes call it *dirt*, a word which means something else. Its real name is earth, because it is the material of which the surface of the earth consists. Some places show layers of each kind, as in the picture, where the upper layer is soil, the one next below sand, and the lowest one clay.

Sand and clay may be very deep. Good-sized hills may be gravel, which is a coarser sand, or they may be clear clay; but underneath there will be found solid rock. *Rock* or *stone* is the true earth material; the clay and sand

and gravel have been made by the grinding together of stones and by the help of sun and wind and rain and frost.

Suppose earth were all rock. It would be firm to support buildings and to rest against. Would it make a good dwelling place?

No; for one of the needs of all living things is *food*, and it takes soil to make plants grow. You have seen fine, dry mosses growing on damp rocks, but grains and grasses, fruits and flowers need soil.

Here are names of some of the forms of earth material:

soil	loam	mold	peat	clay	stone
sand	gravel	pebbles	rubble	metals	bowlders

Bodies of animals and plants belong to earth material also. Bone, horn, ivory, wood, and coal are some of the forms of it. The invisible worker *Life* has helped to build them out of other materials.

XIV. THE NEED OF WATER

WERE you ever very, very thirsty?

How long do you think you could go without drinking, or eating moist food?

Do you remember a time which people called a great drought, or water famine?

Or did you ever hear of vast deserts where no rain falls, and where the winds bring no moisture?

If you have you do not need to be told that an earth without water would not be an earth to live upon.

But how much water? Could not the earth spare some of its great lakes and rivers, and parts of its great ocean?

If the greatest things of earth and sky were to fall into a dispute as to which was the most useful, I think Ocean could make out a pretty good case for itself.

"If I were to be selfish," we may think of it as saying, "and keep what is my own for a single year, the rest of the earth would become as dry as a cinder, and not a plant or an animal would be alive on it.

"A single one of my sections — the Indian Ocean — gives to the air what would amount to fifteen feet in depth of its water, and does it, as a rule, so quietly that it makes no disturbance. You might be sailing over that ocean and not know it."

But the Sun would be sure to answer, "Do I have no part in your giving? If I were to withdraw my warm rays, Ocean, you could not lift the water a foot above your surface; and it is not certain that you do give it, for when I come and ask for it you cannot help letting it go."

This is hardly fair, for in the world of nature what things do is always supposed to be their wish. It is true that the Sun is pumping almost ceaselessly from the ocean into the

air. The air is a nearly transparent sponge full of tiny cells which hold moisture. From it all living creatures, yes, and plants also, drink as they breathe.

The dry air of a desert is as hard to bear as its lack of water to drink. Travelers carry water with them and keep damp cloths over their mouths and nostrils to breathe through.

Thirsty air, if it cannot find a pond or lake, will drink from anything that has moisture to spare. In a few minutes on a dry day it will take all the moisture there is in a wet handkerchief that you hang out upon a clothesline. It will take from the bodies of animals or from the ground. It would be hard to follow such a wholesale giving and taking as is going on all the time; and things you would suppose were dry are often more than half water in disguise. This taking of moisture is called *evaporation.* The nearly invisible moisture is vapor or water dust.

XV. WHAT IS OVERHEAD

ALL of us like to go on journeys. It makes us love our homes all the better to go away from them for a while and then come back.

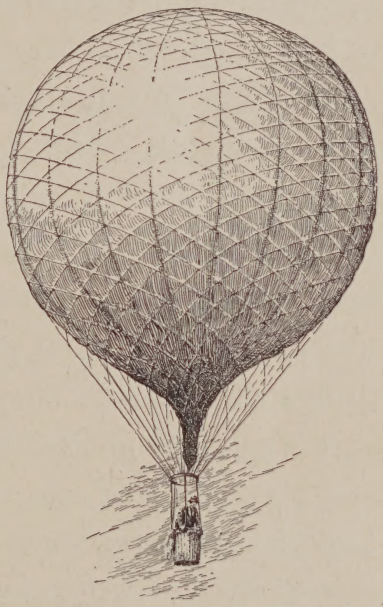
By car or boat we can make quite a journey in a day. In a week we can go across our great country,—the United States. In a month people go across the ocean to Europe and come back again. In six months, if they do not make long stops by the way, people can sail around the world.

Suppose a person should say, "I have done all that; now I want to do something no one has ever done. I want to go outside the world." Where would he have to go?

There is no place except up into the sky. Everywhere we go there is sky overhead,

— plenty of sky if we could invent a boat to take us anywhere we wished to go in it.

The lark flies so high as to be out of our sight; but we are sure it will come back to earth. Some of us have had friends go up in a balloon so far that the earth looked flat, and they could see no buildings or trees. Yet, after all, they had gone but a very little way into the wide sky.



No matter how high the bird might fly, if it were to lose its strength it would fall straight to earth. If disaster befell the balloon, it would drop lower and lower till it struck the earth somewhere. So it seems we are held to earth as prisoners and cannot get away if we wish.

The earth is the solid resting place.

What we stand upon we call the *ground*. Buildings stand upon it; trees and plants have their roots in it. There are sea birds that can fly all day, but they must have something solid to rest upon when their strength is gone.

There is no limit to the sky. The word *heaven* means "high," or "lifted up"; so we often hear the sky called the *heavens*. If our thoughts go away from earth, they must go heavenward. What is it that we see when we look away from earth and consider the things of the sky?

A vast dome of blue, the sun crossing it by day, and the moon and stars by night; cloud changes, beautiful sun-painted colors in daytime and softer ones in moonlight; dazzling light at noon and deep, black darkness sometimes at midnight; rain and snow and hail coming down from dull gray sky whose blue has all faded away, then blue coming back again.

Timid creatures creep into holes in the ground or caves in the rocks. But just as

we cannot go far above the earth, so we go but a little way into it. We learn of deep mines, of wonderful caves, of subways, of the Catacombs, where a great many early Christians lived in hiding places underground; but, when we remember how great the earth is, we shall see that we live only *on the surface*, held to it by gravitation in a most wonderful way; and that the heavens above are not for our grasp, nor for our reach, but only for sight and hearing and thoughts.

What have we learned that we can fix in our minds?

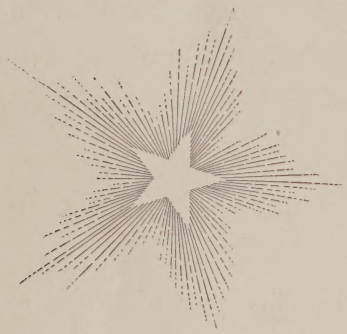
This: that we live upon the outside of the great, round earth which is somewhere in the midst of the sky; that the sky holds also the moon and all the shining host of stars.

The spacious firmament on high, with all the blue
ethereal sky,
And spangled heavens, a shining frame, their great
Original proclaim. ADDISON.

XVI. A CHILD'S WONDER

"I SEE THE STAR"

THERE was once a child, and he strolled about a good deal, and thought of a number of things. He had a sister who was a child too, and his constant companion.



These two used to wonder all day long. They wondered at the beauty of the flowers; they wondered at the height and beauty of the sky; they wondered at the depth of the bright water; they wondered at the goodness and the power of God who made the lovely world.

There was one clear, shining star that used to come out in the bright sky before the rest. It was larger and more beautiful, they

thought, than all the others; and every night they watched for it, standing hand in hand at the window. Whoever saw it first cried out, "I see the star!" And often they cried out together, knowing so well when it would rise and where.

So they grew to be such friends with it that before lying down in their beds they would always look out once again, to bid it good night, and when they were turning round to sleep they used to say, "God bless the star!"

DICKENS.

CANST thou count the stars that nightly
Sparkle in the dark blue sky?
Canst thou count the clouds that lightly
Every day go gliding by?

God, the Lord, the number knoweth,
In the wonders that he showeth,
When he calls them into light.

XVII. TWO OCEANS

Some of us live beside the sea; all of us know what it is like.

It covers a great deal more surface than all the dry land of the earth. Look at the map of

the world and see the shapes of land and water. Find out where your place on it is. You can name *five oceans;* but ships sail from one into another, so you can see they must all be one.

The water of the ocean is never at rest. When the earth turns round and round it

carries the water with it, but the water does not keep its surface fixed and smooth.

Ocean *waves* are beautiful to see. They break upon the shore with white foam, and they sing of all that ocean means. Far out at sea the waves rise and fall like a mighty pulse beating.

The ocean *tides* run up the beach as far as they can go, and then draw back again. They meet the rivers running down and turn the waters back for a little while, then take them out into the deep sea. When waves are strong they wear wreaths of white foam.

There is another great ocean that covers all the land and all the sea. Every inch of ground on the earth is its shore. It is the *air ocean* in which we live. To which does it belong, to the earth or to the sky?

Pure water is *transparent*, and in a clear glass nearly *invisible;* so air that is about us, if it is still, is hardly noticed.

How easily we push it aside when we walk

or run! Do fishes in the sea think as little of water as we do of air?

And yet air is very strong. A good brisk wind shows what power it has. In a blizzard it tests the strength of a strong man.

Blow up a football or a toy balloon till it will hold no more, and see what air is like when it cannot get away. You can make a noise like that of a pistol by filling even a paper bag with your breath and striking it. A fan or a windmill makes the air move for some one's comfort or use.

Because the air is invisible we do not see that it is never at rest. Kite flying is the best means of showing that air keeps up a constant motion. Even breaths keep air moving; a fire makes a draught; the sun shining on one place more than another sets air in motion. Here are words that measure its quickness and strength: a zephyr, a breeze, a brisk wind, a gale, a hurricane, a tornado.

XVIII. WONDERFUL WORLD

Great, wide, beautiful, wonderful World,
With the wonderful water round you curled,
And the wonderful grass upon your breast —
World, you are beautifully dressed!

The wonderful air is over me,
And the wonderful wind is shaking the tree;
It walks on the water, and whirls the mills,
And talks to itself on the top of the hills.

You friendly Earth, how far do you go,
With the wheat-fields that nod and the rivers that
flow,

With cities and gardens, and cliffs and isles,
And people upon you for thousands of miles?

Ah, you are so great, and I am so small,
I tremble to think of you, World, at all;
And yet, when I said my prayers to-day,
A whisper inside me seemed to say,
"You are more than the Earth, though you are such a dot:
You can love and think, and the Earth cannot."

LILLIPUT LEVEE.

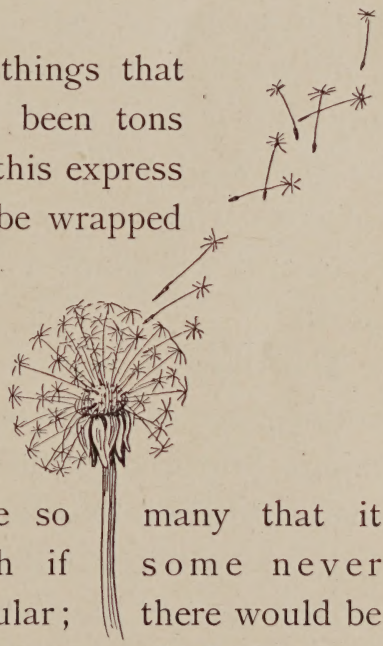
God has a thought for the maple,
You may read that thought in the tree.
Would you know His thought for the granite?
Look at the granite and see!
His thought for the springing grass
Is told by the cool, green sod;
The rose unfolding its petals
Discloses the mind of God.

Let us try to think what some of the things of the earth say to us, or how we feel to them.

Each reader of these story poems should make at least one little story.

XIX. THE FIRST EXPRESS BUSINESS

THIS first expressman was not a *man* at all! What was it? What was carried by it? How far did it go?



The most valuable things that were sent must have been tons and tons of seeds. By this express they did not have to be wrapped and marked. All seeds that were ready when it came along were taken from their own doors and dropped anywhere. There were so many that it did not matter much if some never got anywhere in particular; there would be enough that did, and no one would find fault.

The *wind* was the busy expressman, and the *air* his carriage.

When thistles, daisies, golden-rod, and even pine trees come up where they were never planted by man, it is safe to think that it may have been the wind that did the good or harm in bringing the seed.

Rain helps in the planting and sunshine in the upspringing, and the kind of soil makes a difference in the growing. There is hardly any bit of soil so poor that something brought by the wind will not seek to cover it with foliage. Then if, as we say, it has half a chance, it will plant itself year after year and grow.

The thing to learn from this lesson is that nothing comes by chance; that a great many things help in a great work. There is a lesson of patience, too; for seeds must sometimes wait a long time for their chance to grow.

How far had the seed traveled on the wings of the wind? Probably not very far; and yet possibly a long way, for the wind is a great traveler. Not all the seeds went by this

express; there is another way that you will find out later.

This express carries other things besides seeds. When the water has risen from the sea in fine *vapor* how shall it be sent back to the lands that need it?

We see clouds sailing over the sky as if they went of their own wills. What is it that takes back the homesick water that thought it wanted to run away from its home up in the hill country? Every drop of water has been on these long journeys, and somewhere it had to have the help of the wind express.

Who has seen the wind?
Neither I nor you;
But when the leaves hang trembling
The wind is passing through.

Who has seen the wind?
Neither you nor I;
But when the trees bow down their heads
The wind is passing by.

CHRISTINA G. ROSSETTI.

XX THE LIGHT PRINCESS: A FAIRY STORY

THERE was once a baby daughter of a king and queen. She was as lovely a princess as ever was seen. The day drew near when she must be christened, and the king wrote all the invitations with his own hand.

Somebody is apt to be forgotten at such times. That does not matter much, only one must mind who. The chance fell on the Princess Makemnoit, which was very awkward, for the Princess was the king's own sister. It was not so very strange, for she was seldom at court, being a sour, spiteful creature. After waiting in vain for an invitation, she decided to go without one, and to make the whole family miserable.

She was kindly received by the happy monarch, who forgot that he had forgotten her.

When the time came for the christening, Princess Makemnoit contrived to throw a powder she had brought with her into the font. She turned round three times, and muttered in a voice loud enough for those near her to hear,

Light of spirit by my charm,
  Light of body every part,
Never weary human arms,
  Only crush thy parent's heart.

They all thought she was repeating some foolish nursery rhyme, but the mischief was done. The wicked aunt had deprived the child of gravity.

You ask how this was done? I answer, she had only to destroy gravitation. This was easy enough, for the princess was a philosopher, and knew all the ins and outs of gravitation as well as the ins and outs of her boot lacing. Being a sort of witch, she could undo those laws in a moment so that they

would not work at all. This she had done for the baby princess.

The first awkwardness from this unhappy thing was that the moment the nurse began, as she had done before, to wave the baby up and down, the child flew from her arms to the ceiling. The air did not allow her to go quite to the top, but within a foot of it she lay kicking and laughing.

The nurse flew to the hall and begged the footman to fetch the house steps directly, and she had to stand upon the top step before she could reach the baby's long skirt and pull her down.

Other things like this were constantly happening, and there soon came to be a great commotion in the palace. The king and queen, of course, refused to listen to such nonsense; but one day when the king held the little daughter, he gave her a wave up — but not down — and she rose slowly to the ceiling and lay there in perfect comfort.

Both himself and the queen were horror-struck. The king had not the slightest clew to the difficulty; but the queen, who was more clever, began to suspect what had been done to the child.

As the king was a little king, though he ruled over a great country, he could not reach the baby even from the steps. "Take the tongs, John," said his majesty, and thus the little princess was brought down to him.

After that great care was taken.

This did very well in the house; but a month later the little princess was lying on a bed in the queen's chamber and the window was open. A frolicsome wind, on the watch for mischief, rushed lightly in, and, taking its way over the bed, caught the child up and floated her along like a piece of thistle down or a dandelion seed.

Soon the baby was missed, and search was made for her everywhere. The palace was like a beehive in a garden.

In a moment more a great clapping of hands told that the princess was found. The little wind-puff had carried her to a rosebush, and had finished his mischief by shaking down upon her a great shower of red rose leaves.

She was even more carefully watched after this, but it would be endless to relate, the story says, all the odd things that happened. But, if she was an anxiety to her parents' hearts, there was never a home or palace where a light-hearted baby kept its household in such good humor.

It was true that as she grew larger she never did make human arms ache as other babies are wont to do. And she was such fun to play at ball with! There was no danger at all of letting her fall. Only they must never throw her up, especially out of doors, for then she might never come down!

Upstairs in the royal apartments it was different. One day the king went into his

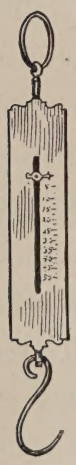
counting room and was counting out his money, but his heart was sad. "To think," he said, "that every one of these gold sovereigns weighs a quarter of an ounce, and my real flesh-and-blood princess weighs nothing at all."

The queen was in the parlor eating bread and honey, but it gave her no pleasure. She burst out crying and could not swallow, and the king, when he was brought, could say nothing to comfort her. The light-heartedness of the princess was sometimes as great a trouble as her lightness of body. Whatever happened made her laugh, and she would meet some dreadful story of suffering with shrieks of merriment; yet, in the main, she was a happy, laughing girl, always amusing her parents in spite of themselves.

The rest of the story, how she got back her lost gravity, is too long to be told here. You must seek for it in its own book, "Dealings with the Fairies," by George Macdonald.

XXI. WHAT IS GRAVITATION?

GRAVITATION is the opposite of what made the princess so very odd a child. If there were no such force, we should go up as easily as we fall down, which might be inconvenient, might it not? Nuts and apples would not fall from the trees on which they grew. The wind, if there could be a wind, would have its own way with things, for they could not move or stay still of themselves.



This is all clear enough, but some things seem to have so *much* gravitation and other things so *little*. It is hard to see just what the gravitation is. Lead has a great deal, and cork but little. Feathers have hardly any, if we may judge by the way they float in the air if they get a chance.

The kind we know most about is the pull

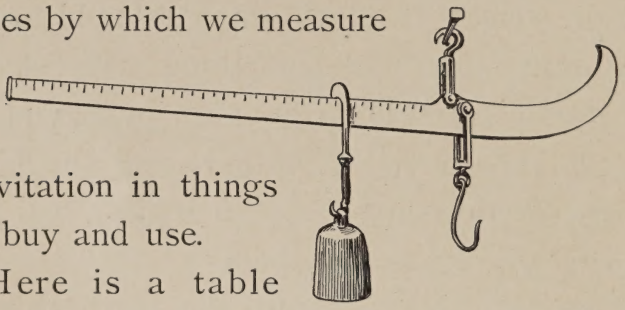
the earth has with which to draw everything to itself. We call it the *weight of the things.* If a ship is to go out to sea and has not enough weight it takes into its hold something heavy, that is, something with strong gravitation. A balloon goes up by having as little as possible; but both it and the birds that fly, would come to harm if they had not some weight to steady them.

These are things about the earth that it will be worth while to observe closely. For gravitation, as you will learn by and by, is perhaps the greatest prince among all the rulers of earth and sky. If any wicked witch *were* able to overcome him and set gravitation aside, the worst catastrophe that the world has ever known would be the result. So many fatal things would happen at once that no one would be left to tell of them.

People have learned to get on with this silent, invisible actor, or force, so as to make it useful. As we look at the thermometer to

find out how warm it is, so we have tests by which to tell how *heavy* things are.

Try to think what we should do without the scales by which we measure



gravitation in things we buy and use.

Here is a table that tells about weights.

16 drams make an ounce.
16 ounces make a pound.
25 pounds make a quarter.
4 quarters make a hundredweight.
20 hundredweight make a ton.

24 grains make one pennyweight.
20 pennyweights make an ounce.
12 ounces make a pound.

A ton of coal, a hundredweight of hay, a pound of sugar, a grain of quinine, are some of the things that are bought and sold by weight.

XXII. FEATHERS AND FUR

LITTLE Polly Patterson was dressed in her new winter suit to go out shopping with her mamma. Her hat was trimmed with pretty feathers, her cloak had a border of white fur, and she carried a white fur muff.

She knew that she looked well, and she wanted her grandpapa to see how pretty she was in her new suit. She went close up to him and said, "See, grandpapa; don't I look fine?"

Grandpapa lifted his hands and said, "Dear me! Who is this dressed all in feathers and fur? Is this Polly?"

"Yes, sir," said Polly, with a smile.

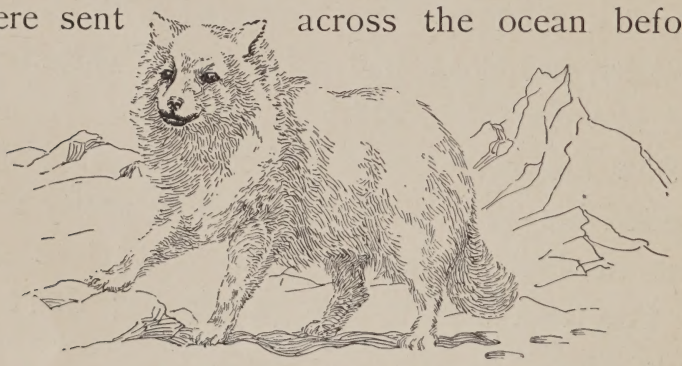
"And where did these fine things come from?" asked grandpapa.

"Oh, they came from Mr. Brown's store down on Broadway," said Polly.

"They had to come a good many thousand miles to get there," said grandpapa.

"Did they?" asked Polly.

"Yes. In the first place somebody away off in Asia or Africa had to catch an ostrich and pull out some of his feathers. The feathers were sent across the ocean before



Polly could have them on her hat. And somebody up at the far north had to catch a white fox or two, and send his fur over rivers and mountains before Polly could have a muff and a border around her coat."

"Is this a true story?" asked Polly.

"Yes, 't is a true story. What do you think about it, Polly?" said grandpapa.

"I 'm too little to think about such big things," said Polly.

"Well, what can little girls think about?" asked grandpapa.

"Oh, they can think how nice it is to go shopping and buy candy!" said Polly. "I 'll buy you some to-day if you 'll give me the money."

Grandpapa made a funny face at Polly; but he gave her a ten-cent piece.

Then Polly went shopping; but she did think also about the ostrich that had worn her pretty plumes in the hot desert, and the white fox, with big bright eyes, a pointed nose, and a bushy tail, and she asked her grandpapa to tell her more about them.

She knew that no amount of money could have bought the fur if there had been no white fox that needed it first to cover every part of its body, even to the soles of its feet.

Do our readers know about the ostrich farms which now supply most of the plumes?

XXIII. THE GIFT OF THE SHEEP AND LAMB

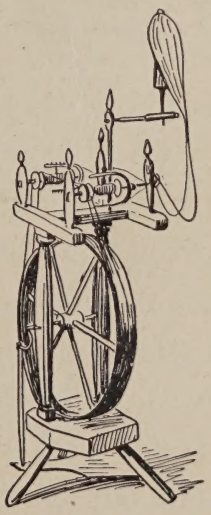
It is a long way from the fleecy coat of the lamb to the soft flannel that the baby wears. Who ever found it out?

The threads of wool are curled up so closely, and are so full of kinks, that they do not seem half so long as they really are. And they are not very long. One thread of wool as it comes from the sheep is not long enough to thread into a needle to sew with, or to use to make cloth.

The wives of the shepherds long, long ago found out ways of combing and straightening the wool fibers and fastening them together without knots. They did it first between the

thumbs and fingers. Then some one invented the wheel and distaff, such as you see in the picture. If each of you will untwist a little bit of yarn, you will find single fibers nicely put together for use. This work is called spinning.

In early times nearly every farmhouse had its spinning wheel, just as people have sewing machines now.

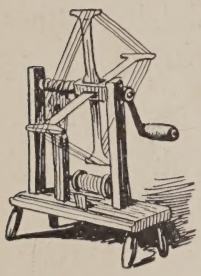


While the weather was still warm the farmer washed his sheep in some stream or brook, and sheared off the long wool that had been growing all the year. More would grow, just as your hair grows after it has been cut.

This was men's work. Then the women of the household took the tangled mass and sorted it over, keeping the best for best uses, but saving all for some purpose.

As fast as the wool was spun it had to be wound upon a reel into skeins, to keep it from getting snarled or knotted.

The weaving needed another machine, called a *loom*. Not every family owned a loom. Neighbors lent their looms, or some who learned to weave well would take the great bunches of skeins from their neighbors and weave them into blankets, flannel, or cloth for clothing.



These old-time ways are seldom seen now in places where we live. The wool is sent to great factories, where it is woven upon larger looms. Instead of the pretty daughter of the house turning the wheel with her foot and passing the thread through her fingers, singing as she worked, or threading the busy shuttle in and out between the rows of thread, we have machinery and the steam engine.

Something like woven cloth is made in another way. You may have seen it done in

your homes. Instead of being woven, the spun wool or yarn is *knitted*. For knitting a stocking four long needles are used, and the knitting goes round and round instead of back and forth.

Crochet work is knitting with a single needle.

A little one-eyed servant helps us in the next step, which is garment making, after scissors have cut the shapes.

All little girls should sew and knit. Some light work for leisure time helps to make life happy and good.

XXIV. THE SILKWORM'S GIFT

In his hammock of silk the little cocoon
Swings in the mulberry tree;
The threads are as fine as the beams of the moon,
That he 's spinning for you and for me.

ALL of you know about caterpillars and the way they have of changing into butterflies.

While they are getting ready to change they live a sleepy sort of life in cocoons of their own making.

Some of these cocoons are only fuzzy, sticky balls, but one of the cocoon makers, the silkworm, winds a wonderful case in which to wait for its new kind of life.

The tiny grub spins a glossy yellowish thread and, while it is doing so, winds it around itself in the nicest way, keeping an oval shape and crossing its layers of thread with other layers so that they do not get tangled.

When the cocoon is finished there will be as many as four thousand yards in it, covered by a thin, gummy, waterproof case. When the waking time comes the butterfly comes forth and leaves its case forever.

China was the place where silkworms flourished. While they were caterpillars they fed upon the leaves of the mulberry tree. Some one was curious, as you or I might be, to unwind the thread so prettily wound. By soaking off the gum and working with care a great many yards could be unwound without breaking. This was the way we came to have silk, and satin, and ribbons.

This finely spun silk was the secret of the Chinese for hundreds of years. Royal ladies

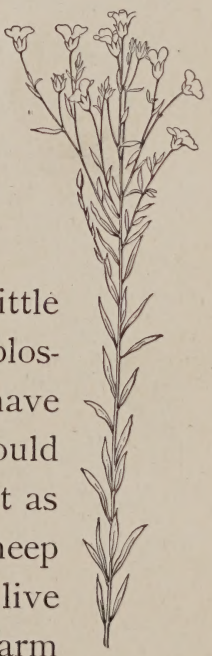
tended the silkworms with great privacy while they were growing on the mulberry trees, and the silk was being woven into cloth in the palaces. Then the kings and queens had something all their own to send as gifts to the kings and queens of other lands.

In coming forth from the cocoon the insect often tears the silky threads. The people who were raising them therefore took the cocoons just before the time came for the insect to leave them, saving only enough of them alive to raise other silkworms. These perfect cocoons were soaked in boiling water, and then whole cocoons could sometimes be unwound without a break. You would hardly believe the thread could be so long. If left alive, the little spinner would never make another cocoon for itself.

In New Jersey, Connecticut, and other parts of our country silkworms are now raised and silk is woven.

XXV. THE GIFT OF THE FLAX PLANT

If the sheep and the silkworm had to furnish all the material for people's clothing, all the hills would not be enough for pastures, and mulberry trees would have to be planted by thousands for food for silkworms.



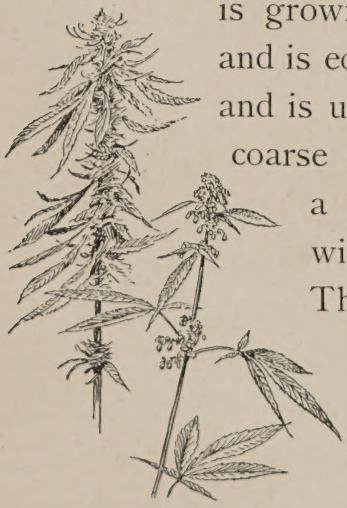
In very early times a delicate little plant with a pretty blue blossom was discovered to have a soft inner bark which could be torn into shreds almost as soft and fine as silk. Sheep and lambs could not live everywhere, and only warm countries were good for silkworms, but flax was hardy. In some places it would grow coarse and strong, and in others fine and

smooth, which was exactly what was needed for different uses.

Your handkerchief is probably of linen or flax, and so are the tablecloth and napkin you use at dinner time.

Beautiful laces are made of linen.

Another plant may be mentioned because it is grown very much as flax is, and is equally useful. It is hemp, and is used in making mats and coarse cloth. If you will pull a bit of rope apart, you will see it has long fibers. The hemp plant grows to be nearly twice as tall as a man. Think of all the uses of rope, on land and on sea, and see if the hemp plant is not a good gift.



The flax plant is to be remembered for another gift to man. Its flat brown seed is

also a treasure. From it oil is pressed out to mix the paints we use.

The farmer who raises flax in countries best suited to it gets for a single crop as much money as he had to pay for the ground on which it grew.

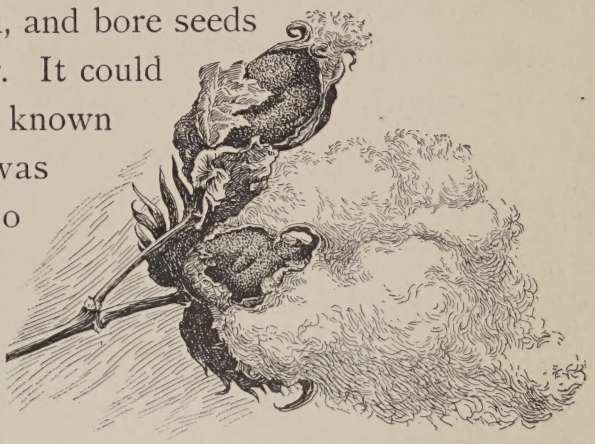
In early times the farmers carefully pulled, sorted, and stripped the bark; then women spun the fibers into thread and wove the thread into cloth. The cloth was yellowish in color and they spread it upon the grass in the sunshine, and watered it to keep it damp until it was white, as we see it in the fine table linen.

A place called Damascus was famous for the fineness and beauty of its linen, and for the pretty patterns woven into it, so that even now we call that kind of cloth *damask* wherever it is made.

Muslin, percale, cambric, dimity, gingham, cashmere, serge, homespun, broadcloth, foulard, velvet, brocade, are kinds of cloth you can easily get to learn of what fibers they are made.

XXVI. KING COTTON

THOUSANDS of years ago there was another plant which grew and blossomed in a warm south land, and bore seeds every year. It could not have known that it was waiting to be found and used, just as you have waited to be found in a game of hide and seek.



The cotton plant was to be one of earth's great gifts to man; but at that time it only grew up each year and did what other plants of its kind were doing. That, as you well know, was getting seeds ready to make more plants, so that its kind might not perish from the earth.

It trusted to odd chances to get the seeds planted where they would grow well; it was more concerned, out of its heart of life within, to send out soft silky hairs, or fibers, to wrap each seed about. These were held in a strong pod, which did not open till the seeds were fully grown. The pod with its seeds and fibers is called a *boll*. When the cotton bolls burst open they show such a bunch of fiber as you could not believe they had held.

Then, in those early times, the seeds had to wait for something to happen. Some wild creature roaming about might press against a cotton boll, and fibers might cling to its hair and pull some seeds with it. The seeds might travel a mile before they fell off in some place where they could grow.

The wind might and did help. There must have been many ways to catch a free ride. Not so are cotton bolls neglected or trusted to odd chances, since people have learned their value.

The plants are grown on great plantations, and when ready for use are picked and sent to towns where there are immense factories, to be made into cloth.

As in the case of the wool and flax, the fibers must first be spun into thread. I wish I could show you all the steps from the picking of the cotton to the selling of the cloth. When you had seen them you would marvel that even the poorest kind of cloth could be sold for a few cents a yard. All these processes had to go on before the baby we are studying could wear its cotton dress.

When in the fields you see plants with fibers which blow about in the air as they go to seed, think how, when the world was young, this wonderful gift to man was no more highly valued than they are.

So many people are engaged in growing and caring for the plant, and so many are helped by the product, that it is no wonder that of all useful plants cotton is sometimes called king.

XXVII. HIAWATHA'S CANOE

We have read of Hiawatha as a child. Let us think of him now as older, and wishing for more things. Hear him say,

> Give me of your bark, O Birch-tree!
> Of your yellow bark, O Birch-tree!
> I a light canoe will build me,
> That shall float upon the river,
> Like a yellow leaf in Autumn,
> Like a yellow water-lily!

Next Hiawatha begged boughs from the cedar to make his canoe firm and steady.

"Like two bended bows" he made the strong and pliant branches.

It was for fine, tough fibers to fasten them together that he went to the larch-tree roots, and with them he also sewed the bark around the framework.

The seams were not yet so tightly closed

that water could not enter, so he asked the fir tree for its sticky, fragrant balsam. With this he smeared every seam and crevice.

By this time he had come to love his graceful, beautiful canoe as if it were a lady, and he wished to give her a wreath for adornment.

When he asked for its quills to make a necklace for his darling, the hedgehog "shot

them out like arrows." He had only to gather and stain them with the bright colors that Indians knew so well how to produce.

Thus the canoe was builded with the lightness of the birch, the toughness of the cedar, the supple threads of the larch, and a splendid necklace of the hedgehog quills.

Ask now to hear the story as the poem tells it.

XXVIII. WHAT ONE TREE GAVE

THIS was the palm tree, and it grew far away on an island shore. It was tall and straight without a branch. At the top was a great tuft of broad-spread leaves.

What had it to give to the people who watched it grow? There were great round cocoanuts, as many as a hundred; these and its leaves, its bark, its sap, and its wood stood ready

for the taking. Here is what a poet has told us it gave:

A ship whose keel is of palm beneath,
Whose ribs of palm have a palm-bark sheath,
And a rudder of palm it steereth with.

In the ship the captain

sits on a palm mat soft.
From a beaker of palm his drink is quaffed.

His dress is woven of palmy strands;
And he holds a palm-leaf scroll in his hands,
Traced with the Prophet's wise commands.

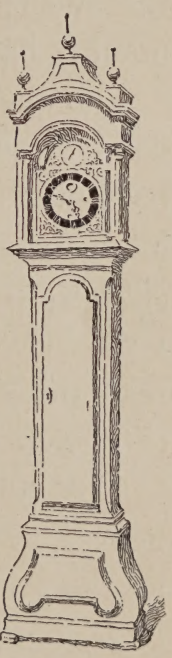
The turban folded about his head
Was daintily wrought of the palm-leaf braid,
And the fan that cools him of palm was made.

To him the palm was a gift divine,
Wherein all uses of man combine,
House, and raiment, and food, and wine.

Adapted from WHITTIER.

XXIX. A GIFT OF THE SKY

A LITTLE school child in New York or Chicago, or anywhere else, if asked, "What time is it?" would go and look at a *clock;* if there were no clock or watch at hand, the child would say, "I do not know," and think no more about it.



What would an Indian child, or an Eskimo, or an Alaskan, who had no timekeeper, answer?

Most such people have a good idea of time. How do they get it?

Instead of the face of the clock they have the face of the sky with its changes and its constancy.

The sky is the real timekeeper. Clocks have been used only a few hundred years, and it is a short time since they could

be bought so cheaply that every family could own one.

When we have learned the best way of doing anything we forget other good ways.

Each of you can tell when it is noon by your shadow; and the place in the sky where the sun is tells whether the morning or afternoon is half gone.

The sky does more than mark the time of day; it shows the time of year, but that is partly the night sky, and it takes much study to learn to read it. Shepherds on the mountain sides who care for their flocks by night grow very wise about the face of the sky. Sailors read the sky and steer their courses by it.

The creation story says:

"Let there be lights in the firmament of heaven to divide the day from the night; and let them be for signs, and for *seasons*, and for *days*, and for *years*."

Men measure the time and give names to little portions as well as large ones, and make

clocks to match the seconds, minutes, and hours, so that you and I can use time without much wasting.

There are other simple ways to measure the passing moments. Did you ever use an hourglass, or a little three-minute glass, such as is used to boil eggs by? This shows what we might have done if we had not had clocks.

How many things can you name that come once, twice, four times, twelve times, three hundred and sixty-five times a year?

How nearly can you judge of a minute, five minutes, or half an hour? How many times a day do you need to know what time it is? What is this gift worth compared with the others we have studied?

Paul and Virginia (two children in a French story) had neither clock nor almanac.

They knew the time of day by the shadows of the trees; the seasons by the times those

trees bore flowers or fruit; and the years by the number of their harvests.

"It is time to dine," said Virginia; "the shadows of the plantain are at their roots"; or, "Night approaches; the tamarinds are closing their leaves."

"When will you come to see us?" asked some of their companions in the neighborhood.

"At the time of the sugar canes," answered Virginia.

When she was asked her own age and that of Paul, she said: "My brother is as old as the great cocoa tree of the fountain, and I as old as the little one; the mangoes have borne fruit twelve times and the orange trees have flowered four and twenty times since I came into the world."

Their lives seemed linked to that of the trees.

XXX. LEARNING TO WORK

RUDY was now eight years old. His uncle who lived on the other side of the mountains, in the Rhone valley, wished to have the boy with him, so that he might learn something and get on better. His grandfather also thought this was best.

Just at that time two guides were going over the mountains, and Rudy was to go with them. It was a long and hard journey for such a little fellow; but he had a good deal of strength, and courage that never had failed.

There were several to whom he had to bid farewell. First, there was Ajola, the old dog.

"Talking," said Ajola, "has not been much in my line, but now that we shall probably not be able to exchange a word in a long time, I will say a little more than usual.

"A story has been running in my head a

long time. I don't understand it, and you won't understand it either. This much I have made out of it: things are not equal in this world for dogs or men. We are not all born to lie in people's laps or to drink milk. I have not been used to it, but I have seen a little dog traveling in a post chaise and taking the place of a human being.

"The lady who was his mistress, or whose master he was, fed him and offered him sweets. I was running along in the mud at the side of the carriage as hungry as a dog can be, and my thoughts seemed to tell me that things were not quite as they should be."

"Should you like to lie in laps and ride in carriages? I wish you it from the bottom of my heart. But you cannot bring it about by either barking or whining."

Rudy threw his arms about the dog's neck and kissed him heartily on his wet nose.

Then he took the cat in his arms; but he struggled to be free, saying, "You are getting

too strong for me. Climb away over the mountains, for I have taught you how. But never imagine it is possible for you to fall; in this way you will have a sure footing."

With this the cat sprang away.

Rudy also bade farewell to the goats who bleated and wanted to follow him; it was very touching. The swallows flew a little way with him. "We and you! You and we!" they sang.

They soon passed the thicket of alder trees and began to ascend the mountains, close to where the glaciers had loosened themselves from the rock, and they went upon the glacier over the blocks of ice. Rudy crept here and walked there, his eyes sparkling with joy as he placed his firmly tipped mountain shoe wherever he could find footing. Upward, always upward, they went their way. Once or twice, when the men thought it too difficult for so little a boy to mount up, they held out their hands to help him; but he never needed

their assistance, and he stood upon the glacier as if he had been a chamois itself.

In good time he reached the home of his uncle, who was to train him to be a chamois hunter, for he said Rudy had the right stuff in him for it.

He taught him to watch the movements of the chamois when leaping, so that he might always come down firmly on his feet.

He showed him how to hold himself up by his elbows, loins, and legs if there was no footing in the crevice of the rock, and how it was possible even to help by one's neck if necessary.

He told him that the chamois were cunning and had outposts, but that the hunters must be more cunning than they and put them off the scent.

He taught the boy to hold and load and fire a gun; he taught him to know when, on different slopes of the mountains, avalanches were about to fall.

HANS ANDERSEN.

XXXI. INDUSTRIES

No one must think of living without working. There are a great many industries or employments for you to choose among, but an idle life is out of the question. It would not be a happy one.

When the world was young there were a few great industries, — hunting, for the people who lived near great forests; keeping sheep, for such as lived on high hill slopes; and fishing, for those whose homes were by the sea.

Tilling the soil and rearing cattle must have soon followed, and always there are people who do hard work with their minds.

Next came the craftsmen; what do they do?

We cannot think of anything they do not do; for as soon as a thing is thought about, that is, invented, some one studies out a way to do it; so he becomes that kind of craftsman, or manufacturer.

The simple crafts are those by which earth material is shaped for use. Indian arrowheads shaped roughly in stone, vessels for cooking and holding, and, alas, weapons for fighting, are among the earliest things.

From these beginnings come the carpenters, stonecutters, machinists, and all the great army of craftsmen and artists.

It was a great day when men learned to work with *fire*. Melting and mixing have added new materials, such as glass, brass, bronze, aluminum, nickel, etc.

Very hot fire is needed for making gold, silver, iron, and copper into things that can be used. To get these materials men have bored down deep into the earth and worked long and hard with brain and hands.

Do you wonder why grown people may not do as children do, working when they please? If you were to ask, there would be two answers. One might say, "I have a dear family at home; I must work to take care of them." Another might answer, "This work must be done."

Some like to go to sea, some to trade, some to invent and make, and some to till the

land. The more skill the workman has, the better and happier is his work. A good head to think, a good eye to see, and a good hand to do, make a skilled workman. A willing heart and patient mind make a happy one.

How many employments are shown in the picture? In what way should you like best to help in the world's work?

XXXII. ABOUT MONEY

At the time when our baby needed its first pair of shoes it so happened that a hundred or more other somebodies in different homes also wanted shoes. And there were people who, without knowing these babies at all, were making and selling that very kind of babies' shoe.

When the time came for a carriage to ride about in, there had been carriages made that just suited the parents of the baby.

So it was with everything that was needed to eat, drink, or wear. There were more things, indeed, than the mother could buy, though she would have liked them.

It took *money* to get the things, and money must be earned before it could be spent. She told her little man that by and by he would

have to earn money and buy her everything she wanted. And he answered "Yes," but did not comprehend.

This makes us think about money and how we come to need it.

The father of the baby was working every day, but he was not making shoes. He did not know how to do that. He took care of a greenhouse, perhaps, so that all who wished might buy plants and flowers.

But flowers would not cover the baby's feet and keep them warm; and he had no time to go and look for a person who made shoes and would exchange them for flowers.

So he was given money for his work, and it could be *exchanged* for shoes and carriage and toys, but not till some was left after he had looked out for food and shelter, which were greater needs.

Then the shoeman could, if he liked, take the money to the florist and buy flowers. Perhaps he needed it to get leather for more

shoes, and so it was the leather merchant that got the flowers. Perhaps that money never got back to the florist, and yet it was raising the flowers that bought the shoes.

The ten-cent piece you have to-day may have gone through many hands since it left the government mint, where it was made and had its value stamped upon it.

Copper, nickel, silver, and gold are used to make coins. Where are these found?

What do people use to pay large bills?

Why should any one be willing to take a piece of printed paper in exchange for a pair of shoes, a coat, a hat, a day's work?

What promise is written on the paper note?

Who makes the promise, and where is the coin kept to make it sure that the paper money is worth the sum written upon it?

XXXIII. A SOCIAL WORLD

A CHILD soon learns to walk and run. It finds new uses for its hands and fingers every day.

What does it want of *the earth* now?

It must be a playground for him and the other somebodies he learns to know. Soon he goes to school and to church.

When older people played with him they did very much as he wished. He had things his own way. Now each of the other children wants his way just as much. Then something happens. Our little friend is called a naughty boy. He has to be taught that if he wants his own way all the time he must play alone.

He is a social little fellow and would not like that. It would not be good for him if he did. Every one who comes to live in the world must learn to live with others.

He must be willing *to take turns, to wait, to obey,* and *to show kindness.*

All this he holds by a Golden Rule.

To do to others as I would
That they should do to me
Will make me always kind and good,
As children ought to be.

Again our little fellow is called a naughty boy, and he cries as if he were abused.

The children say he has told a lie. They mean that he has said something that he knows is not so. All the children seem to know that this is wrong. He would not cry so if he were sure he had been a manly boy.

His mother has to make him see that even if he lives and plays alone he must be true. If he says yes for no, his word will not mean anything. Others will not trust him; he will not trust himself.

Truth and *right* are the heart of everything, and nothing goes well without *love.*

XXXIV. OTHER SOMEBODIES

THERE was a certain country where things used sometimes to go oddly. You could never tell whether it was going to rain or hail, or whether the milk was going to turn sour. It was impossible to say whether the next baby would be a boy or a girl, or whether, even after he was a week old, he would wake sweet-tempered or cross.

In this country of uncertainties it came to pass one day that in the midst of a shower of rain that might well be called golden, seeing that every drop was good for a grain of golden corn, or a buttercup, or a dandelion at least, — while this splendid rain was falling with a musical patter on the leaves of trees and on a multitude of flowers, and washing all the motes and bad odors and poisons out of the air, — something happened.

It was not a great battle, nor an earthquake, but something more important. *A baby girl was born:* her father was a king, and her mother was a queen, and her uncles and aunts were princes and princesses, and her cousins were dukes and duchesses. So the little girl was Somebody; and yet for all that the first thing she did was to cry. I told you it was a strange country.

As she grew up, everybody did his best to convince her that she was Somebody, and the girl herself was so easily persuaded of it that she quite forgot that anybody had ever told her so; and the worst of it was that the princess never thought of there being more than *one* somebody, and that was *herself!*

Far away to the north, on the side of a bleak hill, where there were no meadows rich with buttercups, only steep, rough, breezy slopes, covered with the dry prickly furze and its flowers of red gold, or moister, softer broom with its flowers of yellow gold, and

great sweeps of purple heather, mixed with bilberries and cranberries, — while the same cloud that was dropping down golden rain all about the queen's baby was dashing huge handfuls of hail upon the hills, — there among the hailstones and the heather another little girl was born, whom the shepherd her father and the shepherdess her mother, and a good many of her kindred too, thought Somebody. And yet (would you believe it) she cried the first thing. It was an odd country.

And what was still more surprising, the shepherd and shepherdess, and the dairymaids and laborers, were not a bit wiser than the king and queen and the princes and dukes; for they, too, taught the little woman so constantly that she was Somebody, that she also forgot that there were a great many more somebodies beside herself in the world.

GEORGE MACDONALD.

XXXV. WORKING TOGETHER

"How many helped to make this pudding?" asked Robert's uncle as they sat at dinner.

When some one said, "A thousand," Robert was astonished. He did not think that could be.

"Let us eat some first, and then we will think of the workmen," said the uncle. "We might begin with the flour: how many did it take to provide that for us? The ground had first to be plowed and harrowed, and planted with the seed. Then perhaps some other men were hired to cultivate the field when the wheat was ready, and still others may have reaped the ripe grain. These people, together with all who took care of their wants while they were doing these things, would be quite a company, and we have not got to the flour yet.

"To make the plow, harrow, and other utensils called for blacksmiths and carpenters.

"Horses and oxen did their part, and another company of people supplied them; there had to be harnesses which required leather; and beside those who got the skins there were tanners and curriers needed, and other smiths at their forges.

"Before the forges could be set at work the iron had to be sought and mined and smelted. Before there could be fires coal had to be found and mined and brought."

"Dinner would have been very late," said Robert's mother, "if these helpers had not had things ready for me."

"The choppers and the wood sawyers had to get ready for the carpenters," said Robert, who remembered going once into the woods with his father.

"Yes," said Uncle Robert; "and what about great mills full of machinery with wheels and belts and pulleys? Who made the bricks and quarried the stone? Who made the glass and all the other things?"

"Let us for a change go to Spain," said the mother, "and get raisins from the vine dressers on the sunny hill slopes; and to the far-away islands of the sea for the spices. Have we got to count in the sailors and the shipbuilders? They did their part."

"How many helped to supply the sugar? Robert would not have wanted that left out."

"I will give it up," exclaimed the boy. "It seems to take everybody in the world just to make a pudding. If you please, mamma, I think after all this work I could eat another slice."

"While you are eating it you might think of my part," added the mother, "and of the stove and kettles, and the linen bag the pudding was boiled in."

But Robert had thought all he wished to for once.

XXXVI. GIFTS LAID UP

I HEARD a little while ago of a girl at college whose dress began to look worn and shabby. What do you think was done about it?

She took a vacation and went home. With her own hands she sheared a sheep and washed, combed, spun, and wove the wool into cloth. Then with scissors, thread, and needle she made a pretty, shapely dress and wore it back to school, where she made up her lost time by harder study. If I were you, I would give three cheers for the brave Kentucky girl who helped herself so well.

The gift we are to study now took a great deal of *time*. Let us note some of the steps.

When the fire burns low in the stove some one goes to the cellar and brings from the bin a hod of coal. Long, long ago, so long that no human being was there to remember it, the

coal was in a deeper cellar, hidden away in the ground.

Do you ask who could have placed it there? And do you wonder how any one knows, if no one lived on the earth at that time?

We know first because it is found there, and it tells the story itself. It was done through many earth and sky helpers, each obeying its own laws, — laws given by Him who made all things.

The sun was the same wonderful provider of light and heat that it is now.

On earth were great reaches of marsh land, and on it grew dense forests of giant trees. With so much light, heat, and moisture, they grew so thickly as almost to shut out light among their branches.

When one after another the trees came to the end of their lives, there was nothing for them but to fall where they had stood, and settle into the wet bog in which they had grown. Decaying, they made what we call

peat; it will burn like wood only not so brightly.

A tree may rise, a tree may fall,
The forest overlives us all.

Do you see that in time the marshy bottom would get packed with the trunks, branches, and leaves, pushing aside the soft earth and decaying in it until no more trees could find room to grow?

The next chapter of the story is of great and dreadful floods. These marsh lands became ponds. The floods brought sand and clay and sometimes lime to places where they had not been before, and little by little whole forests and fields were buried.

After the waters flowed away and left the loose soil they had brought, the seeds in it waked and grew, till new foliage clothed the spots that had known such mighty happenings.

Earthquakes and volcanoes tore the earth, lifting one part and sinking another.

In good time men came to live upon the earth. They found plenty of everything they

needed, and cut down wood to build fires and cook their food. Just when careful ones were saying that the trees were being cut faster than they could grow, and that sometime there would be none for fuel, *black, hard rock that would burn* was found underground.

Some one had discovered a *coal* mine, and there was a new fuel to burn.

The coal, the sandstone, the limestone, and the floods told their separate stories. Prints of leaves were found in the hard coal, showing what the trees had been like. In the pressed sand and lime were shells and fossils, and layers of stone on the top of the coal told of terrible times in earth and sky.

So all the stories agree that it has been in this way that Mother Earth has been made ready for the use we are making of it.

Think sometimes when you see coal how many ways and doings of mankind are made possible by means of it.

XXXVII. MINES AND QUARRIES

Beds of coal reach down deep into the earth. Beds of sandstone and limestone rest upon them sometimes and have to be cut through.

The miners working with pick and shovel make great galleries or passages underground. It may be a mile or more from the place where the miner is working, shut away from sight and sound of life above ground, to his home near the opening of the shaft. He is let down in a car or basket, with only the light in his cap to show him where he is to work.

We are very dependent upon these brave toilers; let us not forget to be grateful. In other mines men seek for iron, gold, copper, and the precious stones we call jewels and gems.

There is hardship and danger in the lives of those who bring coffee, tea, spices, and other luxuries from the far East; but it is often easier and safer to go a thousand miles by railway or steamship than to go one mile down into the heart of the earth, not knowing what may happen to cut off supplies of air, or to close up the way back to the shaft. This is a part of the price of coal.

Stones for buildings are for the most part cut in quarries open to light and air. You who are reading these stories are not too young to begin to make a collection of minerals.

Watch the roadmakers and see how fragments of rock are ground to powder. It is not so easy to see how powdered rock came to be made solid rock again; but every bit of sandstone has been through both these processes. Many kinds of rock tell of terrible fires that have melted them. Try to find out the stories of granite, quartz, limestone, and marble.

XXXVIII. OLD WAYS AND NEW

THERE are among you, perhaps, children who live in large apartment houses, or board at hotels where there are rooms for several hundred people. I dare say you think the fashion quite a modern one.

This lesson is to tell you of homes that were lived in before any of your cities or towns were built, before Columbus began to think there *might be* a "new world" across the sea.

The town builders of that time did not know of the part of the world Columbus lived in; their homes were in what we now call Arizona and New Mexico.

They were not wigwams or tepees, but great apartment houses of clay or stone with thick, high walls. Ruins of these can still be seen in very perfect condition. One of them is six

stories high and covers several acres of ground. Another is built around an open square with no windows on the outside. This looks as if the houses were forts. In these outer walls are holes which the Pueblos used to shoot arrows through.

There are ruins which show homes for a whole community. The second story stands back a little from the first, and the third and fourth still farther back, making the wall look like a terrace. Stairs were on the outside and could be taken up in case of danger. The people could walk on the narrow terraces all about the town without going down to the ground at all.

For the best of these homes a wash of gypsum made the walls smooth and white.

These Pueblos had other beautiful and useful arts. When you visit a great museum look for their arrowheads of flint tipped with sharp agate, and their rugs, baskets, and ornaments.

XXXIX. THROUGH FIVE GATEWAYS

We must not forget the baby! It is through *its eyes* that we are getting acquainted with the earth home.

It will stay a baby only a little while, but what a wonderful amount of learning it will get even before it can talk!

There will be a first time when it will follow the light with its eyes, — a first time when it will turn its head when we speak to it, — a first time when it will begin to look at its little hands and try to grasp things, — a time when it will not be willing to take something into its mouth from a spoon, lest it should not taste good. There is a time when a little one feels a pain but cannot tell whether it is in hand or foot.

All these things, and a great many more, make the little brother or sister very interesting.

When the little baby came it had *five gateways* open for knowledge to come in. Most children have them all when they come to us, but sometimes a fever may burn so fiercely in the little frame that one of these may become closed. Then we have to say, "Poor little child!" for it is blind or deaf. There are a few who are both blind and deaf. Have you heard of Helen Keller, who gained a college education with neither *sight* nor *hearing?*

The other gateways are the senses of *touch*, *taste*, and *smell*. All the beginnings of our knowledge come through one or more of these gates. All that belongs to light comes through the gate of sight; all sound comes through the ear. Feeling comes from nerve threads that go like telegraph wires all through the body. Back of all a busy brain, like a telegraph station, keeps the messages on record for the mind to use.

How wonderfully we are made!

XL. THE WORLD BEAUTIFUL

THINGS may be good and useful without being beautiful. It does not matter much to the baby whether it lives in a hut or a palace, if it is kept from too great light, too great heat or cold, or too much noise; and if it has a soft resting place for its tender flesh.

But this time does not last long. "Look!" is one of the first things we say to the baby, and "pretty" is one of the first words that it speaks.

What helps to make things pretty? One way to find out is to suppose that things were different. Let us think of a world all of one color. Have you seen a picture in which everything was brown? Suppose we had brown hills with brown trees against a brown sky, with brown waterfalls and streams! Suppose also that our faces and clothing were brown because there was no other color for them to be.

Color gives one of the chief beauties to things. We do not value it half enough. Picture the green hills against a sky where white and rose-colored clouds sail back and forth. Could any other way be as good?

We need all the colors; the dull browns of the ground and the gray of the rocks are pretty as backgrounds for the brighter tints in flowers and fruits.

Violet, blue, green, yellow, orange, red, are names of great classes of colors. The rainbow shows them all.

I visited a place where skillful artists were weaving tapestries with balls of wool to copy a great painting. Hundreds of balls or bobbins lay waiting their turns to be used in the woven picture.

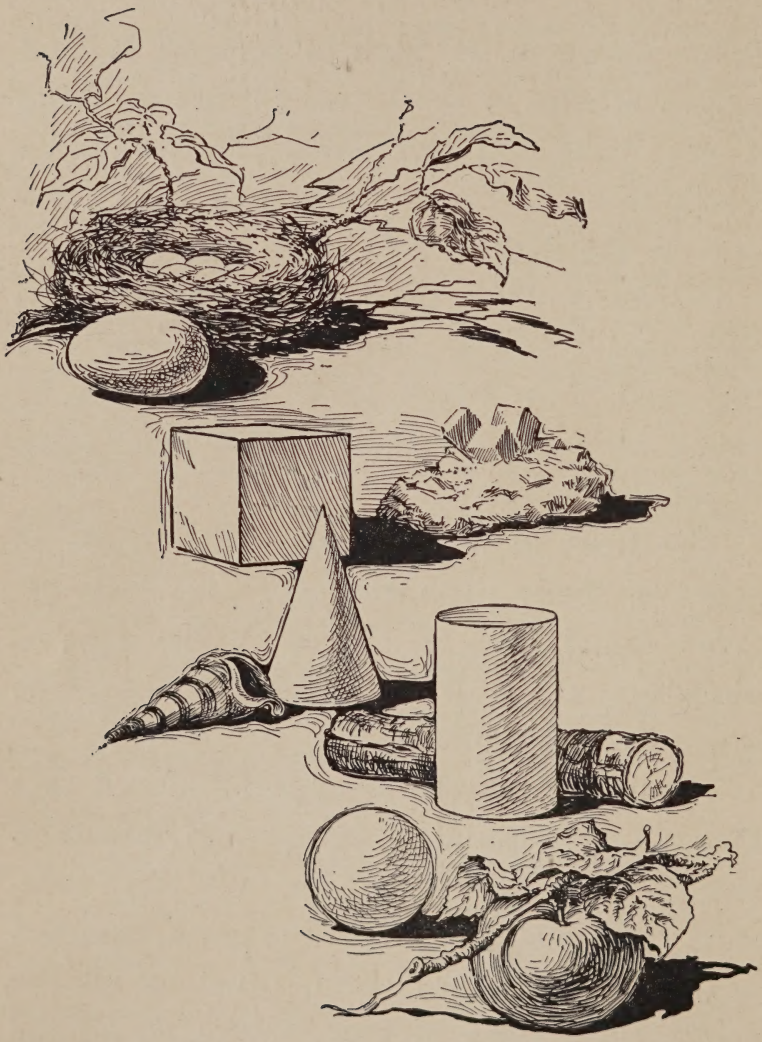
I asked how many colors there were, and was told that six hundred different hues and over fourteen hundred tints and shades were being used to reproduce that one picture. All these were needed to stand for all the

colors shown in the flesh of persons, in landscapes, articles of dress, and furniture. Does it not make you feel proud of old Mother Earth that she can give us such colors, and provide the dyes to help us to copy them?

If *color* is one of the chief things of beauty, the other is *form*. How shall I show you the need that things shall have forms by which we can know them? You must think it out yourselves.

The trees in winter, flowers and fruits in summer, shells upon the shore, crystals and gems found deep in the rocks, the eggs of birds, are a few of the things that have the greatest *beauty* of form.

The ancient Greeks loved form so well that they wrought beautiful figures and statues in marble which have lasted for over three thousand years, and people visit the great museums of the world to see them. Just as all the colors came from Mother Nature, so all the forms began with what she had provided.



Shapes in earth and sky were the models for the sculptors. The vase gives a chance for all the varieties of straight and curved outlines. If you like to draw, see how many kinds of vases you can make, each one of which will be symmetrical.

The human body is said to be the finest

combination of forms in the world. We ought to try to keep our bodies healthful and beautiful.

And we must fill our homes with things of beauty if we can. The town or village in which we live must be made beautiful too, for it belongs to all, and these things help to make life true and good.

Think for a moment how, little by little, the world has been made better for a dwelling place for man. Marshy places have been drained, waste places have been planted, and dangerous ones made safe.

Think of the stately buildings that are reared to last for hundreds of years, of the roads and bridges, the parks and gardens, the harbors and sea walls, that men have worked together to provide for the use of people who will be on earth long after the builders themselves have passed away.

Beside all these are the hosts of useful and beautiful things which have been invented, the customs that have been introduced, the forms of government established, and the books on all subjects that remain to preserve the best records of the knowledge that people have gained.

A child that is alive now finds all these ready for use as he comes to need them. He does not have to invent or discover in order to live. And still the best has not been reached.

XLI. THE HUMAN FAMILY

I DID not tell you to what part of the world our little child came.

That was because the things it had to have would be the same everywhere. What were they?

Air, *sunshine*, *solid earth*, *water*, *food*, *clothing*, *shelter*.

There are two more, — *love* and *care*.

The child might have come right in our very midst, as happens every little while. Then it would have been an American. We think that would have been fortunate for it.

Or, suppose it had been in England, Scotland, or Ireland, or even in India, China, or Japan. Then it would have some little ways that belong to the country where it grew up.

If for "good" and "pretty" it said *bon* and *joli*, perhaps it was France to which it came. If

it said *grazia* for "thank you," we will guess it was sunny Italy; and if Germany had been its home, we might have heard it saying *Vater und Mutter* instead of father and mother.

These are little things; the great ones are the same for all.

Because of this, people understand and feel for each other. If by fire or famine, or any dreadful sickness or calamity, numbers of people are deprived of the *necessaries of life*, those who have abundance share with them.

This is what we call *humanity;* it means that the nations of the earth make one great family. As soon as this is understood and felt the Golden Rule will reach around the earth and wars and quarrels will cease.

And Abram said unto Lot, Let there be no strife between me and thee, and between my herdsmen and thy herdsmen; *for we are brethren.* Is not the whole land before thee? If thou wilt take the left hand, then I will go to the right; or if thou take the right hand, then I will go to the left. — GENESIS xiii. 8–9.

XLII. LESSON FOR A CHILD

THERE breathes not a breath of morning air,
But the Spirit of Love is moving there;
Not a trembling leaf on the shadowy tree
Mingles with thousands in harmony,
But the Spirit of God doth make the sound,
And the thoughts of the insect that creepeth around;
And the sunshiny butterflies come and go,
Like beautiful thoughts moving to and fro;
And not a wave of their busy wings
Is unknown to the Spirit that moveth all things.
And the long-mantled moths that sleep at noon,
And dance in the light of the mystic moon,
All have One Being that loves them all;
No fly in the spider's web can fall,
But He cares for the spider and cares for the fly;
And He cares for each little child's smile and sigh.
How it can be I cannot know;
He is wiser than I and it must be so.

GEORGE MACDONALD.

XLIII. AFTER NINETY YEARS

We have come to the place where we must say "Good-by" to the little child we have called ours while we have read this book.

It has grown to be a school child about as old as you, and has learned a great deal about the things of earth and sky.

Suppose for a moment that it is the little fellow in this picture, and that the dear old man is his grandpapa.

The old gentleman has lived a long, long life. He is ninety years old, and it is still pleasant for him to live.

He remembers things that happened when he was no older than this boy, as if they had happened only a day or two ago.

He often sits and thinks how many changes he has seen! There were no steamboats or railways when he was young. In his boyhood candles or lamps filled with oil lighted the houses, and gas and electric lights were not known.

Our country was not half its present size, and where some of us live Indians roamed and hunted, or forests grew.

Things sold in shops and used in homes have multiplied since his childhood. He looks back upon his ninety years and wonders if his grandson will see as great changes in his lifetime.

The boy loves to hear stories of the past and means to remember them. He thinks he will tell them to his children, and to their children. This is the way history began.

The old man has lived a useful life. Now he is being loved and cared for as he was at the beginning of his life. He knows that the body he has builded and worn cannot serve him long, but he is sure that he shall go on living in a better way.

A time will come when his life on earth will end, but the boy will remember him as long as he lives. We hope he also will be a good, true, useful man.

If you who have learned the lessons of this book will look in earth and sky for something beautiful, think something loving, and do something useful each day, your lives will be sure to be happy and noble.

XLIV. THANKFULNESS

For flowers that bloom about our feet;
For tender grass, so fresh, so sweet;
For song of bird and hum of bee;
For all things fair we hear or see,—
Father in heaven, we thank thee!

For blue of stream and blue of sky;
For pleasant shade of branches high;
For fragrant air and cooling breeze;
For beauty of the blooming trees,—
Father in heaven, we thank thee!

For mother love and father care,
For brothers strong and sisters fair;
For love at home and school each day;
For guidance, lest we go astray,—
Father in heaven, we thank thee!

For thy dear, everlasting arms,
That bear us o'er all ills and harms;
For blessed words of long ago,
That help us now thy will to know,—
Father in heaven, we thank thee!

XLV. A HYMN

I SING the almighty power of God,
That made the mountains rise,
That spread the flowing seas abroad,
And built the lofty skies.

I sing the wisdom that ordained
The sun to rule by day;
The moon shines full at His command,
And all the stars obey.

I sing the goodness of the Lord,
That filled the earth with food;
He formed the creatures with His word,
And then pronounced them good.

There 's not a plant or flower below,
But makes Thy glories known;
And clouds arise, and tempests blow,
By order from Thy throne.

Creatures that borrow life from Thee
Are subject to Thy care;
There 's not a place where we can flee,
But God is present there.

WATTS.

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